Transposable Elements, Inflammation, and Neurological Disease.

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Public Summary:
In this review, we explore the evidence showing that the uncontrolled expression of endogenous retroviruses is contributing to several human disorders. We also critically analyze their contribution to chronic and acute inflammation in certain neurological conditions.

Scientific Abstract:
Transposable Elements (TE) are mobile DNA elements that can replicate and insert themselves into different locations within the host genome. Their propensity to self-propagate has a myriad of consequences and yet their biological significance is not well-understood. Indeed, retrotransposons have evaded evolutionary attempts at repression and may contribute to somatic mosaicism. Retrotransposons are emerging as potent regulatory elements within the human genome. In the diseased state, there is mounting evidence that endogenous retroelements play a role in etiopathogenesis of inflammatory diseases, with a disposition for both autoimmune and neurological disorders. We postulate that active mobile genetic elements contribute more to human disease pathogenesis than previously thought.